

Wu, Jennifer

From: Wu, Jennifer
Sent: Tuesday, March 07, 2017 9:52 AM
To: 'Emi Kondo - NOAA Affiliate'
Subject: RE: Phosphorus information

I'm almost positive they're not confidential. But I'll check internally and send you what we have.

From: Emi Kondo - NOAA Affiliate [mailto:emi.kondo@noaa.gov]
Sent: Tuesday, March 07, 2017 9:50 AM
To: Wu, Jennifer <Wu.Jennifer@epa.gov>
Subject: Re: Phosphorus information

Thank you for the information, Jenny. Are the DMR confidential? Otherwise, do you mind sending it to me? The more information I have on hand, the more comprehensive I can do the analysis.

I appreciate all your help!

On Tue, Mar 7, 2017 at 9:46 AM, Wu, Jennifer <Wu.Jennifer@epa.gov> wrote:

Hi Emi, here's some information on phosphorus in Icicle Creek. Thanks also for the comments on the agenda. Looking forward to talking next week.

1. TP concentrations in Upper Icicle Creek. p. 22 of the Wenatchee River TMDL, paragraph and Figure 5; Page 42, Table 7. This states that upper Icicle Creek and Snow Creek headwaters had TPs of around 3 microg/L, but Jack Creek and Eight Mile Creek, tributaries to the upper Icicle Creek had variability. The graph shows the values of Eightmile and Jack Creek which are below 4.7 microg/L. Note that there are Icicle Creek measurements taken at the mouth which are downstream of the hatchery. Also, these data are from a 2002-2003 study, more than 14 years ago.
2. Icicle Creek loading values. P. xiii, Table ES-3; Page 42, Table 6. Table ES-3 has upstream loads, the load from LNFH, and the total load. Based on this loading estimate, the hatchery comprises approximately 87% of the phosphorus loading. Note that the absolute numbers are small, though. The "current" loading for LNFH based on 2002-2003 data is 1.27 kg/day compared with 27.37 kg/day of WWTPs in the lower Wenatchee River. Also, LNFH fish hatcheries have changed since 2002-2003 where there fish production and phosphorus feeds are currently lower. Table 6 includes some LNFH values, but those are from the abatement pond (outfall 2), which doesn't discharge as often as outfall 1, the primary discharge point. These data are also from 2002-2003.
3. Reductions in fish production and feed used in LNFH. Fact Sheet, p. 11, "Species Raised", p. 17, 2nd paragraph. The fact sheet discusses a decrease in overall SCS smolts at LNFH from 1.625 million to 1.2 million SCS smolts starting in 2008. The Yakama Tribe has an additional 450,000-550,000. But this still means an overall reduction in fish production since 2002. With supplemental flows from Snow and Lada Lakes, there is

also some dilution that might occur, since those upstream lakes have low levels of phosphorus. The second paragraph on Page 17 lists a number of change to the LNFH operations that occurred since 2005, including the use of lower phosphorus feed during critical months of March, April, July, August and September. It also discusses the construction and operations of a second pollution abatement pond.

Let me know if you'd like more information, and I can check out the discharge monitoring reports (DMR) that the facility has sent us. Re: the VIC model assumptions, I'm waiting until the EPA person who looked at flows gets back in the office next week, but I'll ask him about any write-ups describing the flow modeling methodology.

Jenny Wu

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